COGCC doc # 2597291

Caerus
SURFACE POST JOB REPORT

Puckett 21B-26-697 05-045-23363
S:26 T:6S R:97W Garfield CO

CallSheet #: 757
Proposal #: 13204

SURFACE Post Job Report

Attention: Mr. Steve Schmitz | (720) 880-6412 | sschmitz@caerusoilandgas.com
Caerus
1001 17th Street, Suite 1600 | Denver, CO 80202

Dear Mr. Schmitz,

Thank you for the opportunity to provide cementing services on this well. BJ Services strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact BJ Services at any time.

Sincerely,

Oscar Medrano
Technical Specialist-II | (307) 996-6222 | Oscar.Medrano@bjservices.com

Field Office	1716 East Allison Rd., Cheyenne WY, 82007 Phone: (307) 638-5585
Sales Office	475 17th St. Suite 460 Denver Co., 80202 Phone: (303) 296-1158

Table of Contents

1 Job Details & Summary

1.1 Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
Casing	Inner	9.625	8.835	40	LTC	0	2475	0
Open Hole	Outer	n/a	14.75	n/a	n/a	100	2000	25
Open Hole	Outer	n/a	14.75	n/a	n/a	2000	2534	0
Casing	Outer	20	19.5	53	n/a	0	100	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Silo	652			800
Cement Pump	104	Chambers, Andrew	Casciato, Luke	800
Cement Chemical	401	Nepgen, AJ	Josh, Groneman	800
Light Duty Pickups	5	Dent, Jerod		800

1.3 Timing

Event	Date/Time
Call Out	4/29/2017 12:30
Depart Facility	4/29/2017 01:30
On Location	4/29/2017 03:00
Rig Up Iron	4/29/2017 03:45
Job Started	4/29/2017 07:48
Job Completed	4/29/2017 10:45
Rig Down Iron	4/29/2017 16:35
Depart Location	4/29/2017 17:40

1.4 General Job Information

Metrics	Value
Well Fluid Density	9.2 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	140 bbls
Rig Circulation Time	1 hours
Calculated Displacement	187.7 bbls
Actual Displacement	187.7 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	16 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	19
Yield Point	17
10 sec. SGS	8
10 min. SGS	18
30 min. SGS	41
Filtrate	7.4
Flow Line Temp.	75

1.6 Job Details

Metrics	Value
Flare Prior to Job	No
Flare During Job	Yes
Flare at End of Job	No
Well Full Prior to Job	Yes
Well Fluid Density Into Well	9.2 lb/gal
Well Fluid Density Out of Well	9.2 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	94 °F
BHST	128 °F

1.8 Circulation

Lost Circulation Experienced
Yes

Circulation Details:

HAD NO RETURNS THROUGHOUT JOB. RIG HAD RETURNS WHILE RUNNING CASING.

1.9 Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft^3/sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sks)	Volume (bbl)	Top (ft)
1	1	Water	Flush	8.33			42.00		20.00	0
1	2	Sodium Silicate	Flush	10.00			21.00		20.00	0
1	3	Water	Flush	8.33			42.00		20.00	0
1	4	ALTCem S100-12	Lead	12.00	2.53	14.85		703.00	316.33	0
1	5	ALTCem S100-12	Tail	12.50	2.22	12.58		161.00	63.76	2000
1	6	Water	Displacement	8.33			42.00		10.00	2328
1	7	Mud	Displacement	8.33			42.00		160.00	218
1	8	Water	DisplacementFinal	8.33			42.00		17.00	0
1	9	ALTCem S100-12	Topout	12.50	2.22	12.58		34.00	16.00	0

1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Flush	Sodium Silicate	ASF-10	Extender	21.00	gal/bbl
1	4	Lead	ALTCem S100-12	AC3-10	Cement	100.00	%
1	4	Lead	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	4	Lead	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	4	Lead	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	4	Lead	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	4	Lead	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk
1	5	Tail	ALTCem S100-12	AC3-10	Cement	100.00	%
1	5	Tail	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	5	Tail	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	5	Tail	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	5	Tail	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	5	Tail	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk
1	9	Topout	ALTCem S100-12	AC3-10	Cement	100.00	%
1	9	Topout	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	9	Topout	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	9	Topout	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	9	Topout	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	9	Topout	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk

2 Job Logs

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	CALL OUT	4/29/2017	00:30					CREW CALLED OUT
2	PRE-CONVOY	4/29/2017	01:15					DISSCUSSED HAZARD OF DRIVING
3	DEPART SHOP	4/29/2017	01:30					CREW LEFT SHOP
4	ARRIVE AT LOCATION	4/29/2017	03:00					MET WITH CUSTOMER REP WENT OVER JOB DETAILS, AND ASSESSED HAZARDS OF LOCATION
5	SAFETY MEETING	4/29/2017	03:30					DISSCUSSED HAZARDS OF RIG UP
6	RIG UP	4/29/2017	03:45					CREW RIGGED UP FOR JOB
7	PRE-JOB SAFETY MEETING	4/29/2017	07:30					DISSCUSSED HAZARDS OF RIG UP AND JOB DETAILS WITH RIG CREW
8	START JOB	4/29/2017	07:48					STARTED JOB
9	FILL LINES	4/29/2017	07:56	8.33	1	3	70	FILLED LINES WITH 3BBL FRESH WATER
10	PRESSURE TEST	4/29/2017	07:58	8.33	1	2	5000	TESTED LINES TO 5000 PSI TEST SUCCESSFUL
11	PUMP SPACER	4/29/2017	08:03	8.33	3	20	120	PUMPED 20BBL FRESH WATER SPACER
12	SODIUM SILLOCATE	4/29/2017	08:10	10	5	20	170	PUMPED 20BBL 50/50 SODIUM SILLOCATE
13	PUMP SPACER	4/29/2017	08:18	8.33	5	20	190	PUMPED 20BBL FRESH WATER SPACER
14	PUMP LEAD CEMENT	4/29/2017	08:23	12	5	316	220	PUMPED 703/SKS,316BBL OF (12LB,2.53CUFT/SK,14.85GAL/SK)
15	PUMP TAIL CEMENT	4/29/2017	09:23	12.5	5	63.8	220	PUMPED 161SKS,63.8BBLOF(12.5LB,2.22CUFT/SK,12.58GAL/SK)
16	SHUT DOWN	4/29/2017	09:37					SHUT DOWN TO DROP PLUG
17	DROP PLUG	4/29/2017	09:40					PLUG LEFT CEMENTING HEAD
18	DISPLACEMENT	4/29/2017	09:42	8.33	5	177	213	STARTED PUMPING 187.7 BBL OF DISPLACEMENT
19	SLOWED RATE	4/29/2017	10:19	8.33	2	10	419	SLOWED RATE AT 177 BBL DISPLACEMENT TO BUMP PLUG
20	BUMP PLUG	4/29/2017	10:24	8.33	2	187	1500	BUMPED PLUG AT CALCULATED DISPLACEMENT OF 187,600 TO 1500 PSI FOR CASING TEST
21	TEST CASING	4/29/2017	10:25				1500	TESTED CASING TO 1500 PSI FOR 15 MINUTES
22	RELEASE CASING TEST	4/29/2017	10:40					RELEASED PRESSURE

23	CHECK FLOATS	4/29/2017	10:40					FLOATS HELD 1BBL TO SURFACE, DISSCUSSED BLOWING DOWN LINES
24	BLOW PARASITE LINE	4/29/2017	10:45			8.5	700	BLEW PARASITE LINE AT 6BBL AND 700 PSI, FIRST 2 BBL SUGAR WATER 8.5 TOTAL BBLS
25	SAFETY MEETING	4/29/2017	10:55					DISSCUSSED WITH RIG CREW ABOUT RIGGING DOWN HEAD FROM CELLAR
26	RIG DOWN HEAD	4/29/2017	11:05					RIGGED DOWN HEAD
27	WAITING	4/29/2017	11:20					WAITING TO TOP OUT
28	SAFETY MEETING	4/29/2017	15:10					DISSCUSSED DETAILS OF TOPOUG RIG UP
29	PUMP C/C WATER	4/29/2017	15:23		1		90	PUMPED 4BBL OF C/C WATER FOLLOWED BY 3BBL TO CLEAN WITH ALSO PUMPED 100 GAL OF SODIUM SILLICATE
30	SHUT DOWN	4/29/2017	15:33					COULD NOT GET FLOW WITH TOPOUT STINGER WAS CLOGGED
31	TOPOUT	12/30/1899	15:49	12.5	1	16	95	PUMPED 34/SKS/16BBL OF 12.5 TOP OUT(2.58CU/FT/SK,12.58GAL/SK)
32	CEMENT TO SURFACE	4/29/2017	15:57	12.5	1			4BBL OF CEMENT TO SURFACE, TOTAL OF 150 GALLONS OF SODIUM SILLICATE PUMPED
33	SAFETY MEETING	4/29/2017	16:20					DISSCUSSED RIGGING DOWN JOB SAFELY
34	RIG DOWN IRON	4/29/2017	16:35					CREW RIGGED DOWN LOCATION
35	RIG DOWN COMPLETE	4/29/2017	17:00					RIG DOWN COMPLETED SAFELY
36	PRE-CONVOY	4/29/2017	17:20					DISSCUSSED HAZARDS OF DRIVING
37	DEPART LOCATION	4/29/2017	17:40					CREW DEPARTED LOCATION FOR SHOP

3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	65 °F	50-80 °F
pH Level	7.5	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	250	0-1000
Total Hardness	259 mg/L	0-500 mg/L
Carbonates	0 mg/L	0-100 mg/L
Sulfates	below200 mg/L	0-1500 mg/L
Potassium	450 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams